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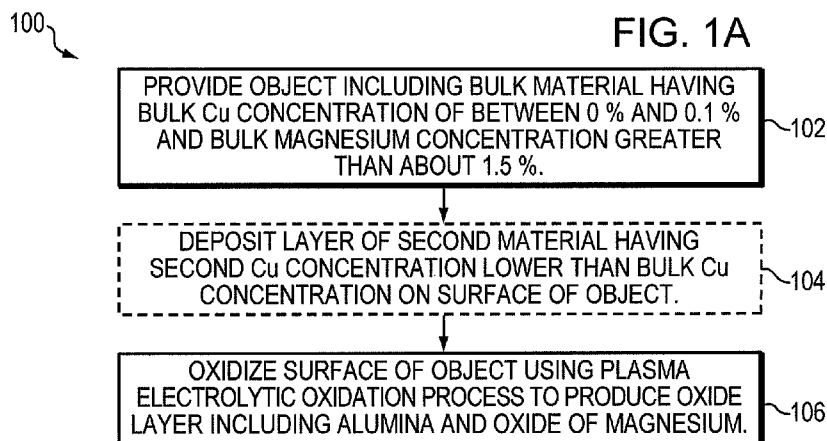
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(54) Title: REDUCTION OF COPPER OR TRACE METAL CONTAMINANTS IN PLASMA ELECTROLYTIC OXIDATION COATINGS



(57) Abstract: A method for creating an oxide layer having a reduced copper concentration over a surface of an object comprising aluminum and copper for use in a semiconductor processing system. The oxide layer produced using a plasma electrolytic oxidation process has a reduced copper peak concentration, which decreases a risk of copper contamination, and includes magnesium oxides that can be converted to magnesium halide upon exposure to an excited halogen- comprising gas or halogen-comprising plasma to increase the erosion/corrosion resistance of the oxide layer.